

Amendment dated

After Final Office Action of June 1, 2007

CLAIMS

1. (Currently amended) A tempo analyzing apparatus comprising:
 - a peak detecting means for detecting positions of a plurality of ones, higher than a predetermined threshold, of peaks of change in level of an input sound signal;
 - a time interval detecting means for detecting a time interval between peak positions detected by the peak detecting means in a predetermined unit-time interval; and
an interval frequency detecting means for identifying a frequently occurring one of the time intervals detected by the time interval detecting means; and
an identifying means for identifying a tempo of sound to be reproduced with the sound signal on a basis of [a] the frequently occurring one of the time intervals detected by the ~~time interval detecting~~ interval frequency detecting means.
2. (Previously presented) The apparatus according to claim 1, wherein the identifying means accumulates a frequency of occurrence of a time interval between the positions of peaks detected in a plurality of unit-time intervals and identifies the tempo of the sound to be reproduced on the basis of accumulated frequency of occurrence.
3. (Previously presented) The apparatus according to claim 1, further comprising:
 - a frequency band dividing means for dividing an input signal into a plurality of frequency bands, and
the peak detecting means detecting the peak positions for each of at least one or more ones of the plurality of frequency bands divided by the frequency band dividing means;
 - the time interval detecting means detecting a time interval between peak positions detected for each of at least one or more frequency bands by the peak detecting means; and
the identifying means identifying the tempo of sound to be reproduced on the basis of the frequently occurring one of the time intervals detected for each of at least one or more frequency bands.

4. (Previously presented) The apparatus according to claim 1, further comprising:
 - a frequency band extracting means for extracting a sound signal of a frequency in a predetermined frequency band from an input sound signal, and
 - the peak detecting means detecting a peak position of a sound signal extracted by the frequency band extracting means.
5. (Previously presented) The apparatus according to claim 1, further comprising:
 - a volume calculating means for calculating a volume of the input sound signal; and
 - a threshold setting means for setting a threshold used to detect a peak position with reference to the volume calculated by the volume calculating means.
6. (Previously presented) The apparatus according to claim 3, further comprising:
 - a volume calculating means for calculating volumes of sound signals of frequencies included in at least one or more of the plurality of frequency bands divided by the frequency band dividing means; and
 - a threshold setting means for setting a threshold used to detect a peak position with reference to the volume calculated by the volume calculating means.
7. (Previously presented) The apparatus according to claim 4, further comprising:
 - a volume calculating means for calculating a volume of the sound signal extracted by the frequency band extracting means; and
 - a threshold setting means for setting a threshold used to detect a peak position with reference to the volume calculated by the volume calculating means.
8. (Original) The apparatus according to claim 1, further comprising:
 - an image display device;
 - a storage means for storing video data on a plurality of images displayable on the image display element; and

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a display controlling means for selecting and reading video data from the storage means and displaying an image corresponding to the read video data on the image display device.

9. (Previously presented) The apparatus according to claim 8, wherein the display controlling means controls at least one of a size, moving speed and moving pattern of an image to be displayed on the image display device which displays an image corresponding to video data read from the storage means.

10. (Original) The apparatus according to claim 8, wherein the display controlling selectively reads video data from the storage means on the basis of the tempo identified by the identifying means and sound volume calculated by the volume calculating means.

11. (Currently amended) A tempo analyzing method comprising the steps of:
detecting positions of a plurality of ones, higher than a predetermined threshold, of peaks of change in level of an input sound signal;
detecting a time interval between the detected peak positions in a predetermined unit-time interval;
identifying one of the detected time intervals as having occurred at a high frequency;
identifying a tempo of sound to be reproduced with the sound signal on a basis of the identified one, having occurred at a high frequency, of the detected time intervals interval; and
displaying an image corresponding to the identified tempo on an image display device.

12. (Previously presented) The method according to claim 11, wherein for the identification of a tempo, the frequency of occurrence of a time interval between the peak positions detected in a plurality of the unit-time intervals is accumulated and the tempo of the sound to be reproduced is identified on the basis of the frequency of occurrence thus accumulated.

13. (Original) The method according to claim 11, further comprising the steps of:
dividing the input sound signal into a plurality of frequency bands;

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detecting the peak position in each of at least one or more of the divided frequency bands;
detecting the time interval of the peak position in each of the at least one or more frequency bands; and

identifying the tempo of the sound to be reproduced on the basis of the one, having occurred at a high, of the time intervals detected in each of at least one or more frequency bands.

14. (Previously presented) The method according to claim 11, further comprising the steps of:
extracting a sound signal of a frequency included in a predetermined frequency band from the input sound signal; and
detecting a peak position of the extracted sound signal.

15. (Previously presented) The method according to claim 11, further comprising the steps of:
calculating a sound volume of the input sound signal; and
detecting a threshold for use to detect the peak position with reference to the calculated sound volume.

16. (Previously presented) The method according to claim 13, further comprising the steps of:
calculating volumes of sound signals of frequencies included in at least one or more of the plurality of frequency bands divided by the frequency band dividing means; and
setting a threshold used to detect a peak position with reference to the volume calculated by the volume calculating means.

17. (Previously presented) The method according to claim 14, further comprising the steps of:
calculating a volume of the sound signal extracted by the frequency band extracting means; and
setting a threshold used to detect a peak position with reference to the volume calculated by the volume calculating means.

18. (Original) The method according to claim 11, further comprising the steps of:

selectively reading video data from a plurality of video data stored in a storage means on the basis of the identified tempo; and

displaying an image corresponding to the read video data on an image display device.

19. (Previously presented) The method according to claim 18, further comprising the step of: controlling size, moving speed and moving pattern of the image to be displayed on the image display device on a basis of the identified tempo.

20. (Original) The method according to claim 18, further comprising the step of: selectively reading a plurality of video data stored in the storage means on the basis of the identified tempo and calculated sound volume.